COLLISION REPAIR

EDUCATIONAL SPACES

Printing Instructions

1. Print the Table of Contents section to obtain an overview of the total document.
2. Print each document section that you are interested in.
3. For a *complete* document, please *print all* sections.

COLLISION REPAIR

GENERAL PROGRAM GOALS AND OBJECTIVES

- ☐ Collision Repair is a program designed to prepare students with skills that include basic trade skills, refinishing, sheet metal repair, welding, thermoplastic and fiberglass repair, painting, electrical system, trim accessories and hardware, body, frame and suspension systems, estimating and preparation for delivery and miscellaneous services. The program also includes training in applied communications, and employability skills including leadership, human relations, and safe efficient work practices. Instruction at the secondary level requires a three year sequence of instruction with at least one multiple period block of instruction. All Collision Repair programs must have the National Automotive Technicians Education Foundation (NATEF) certification and all instructors must be Automotive Service Excellence (ASE) certified.

PROGRAM ACTIVITIES

- ☐ Painting
- ☐ Panel Repair and Replacement (nonstructural)
- ☐ Welding
- ☐ Structural Repair
- ☐ Mechanical/Electrical
- ☐ Testing
- ☐ AC Repair
- ☐ Aligning
- ☐ Brake Repair

- ☐ Plastic Repair and Interior
- ☐ Sanding/Grinding
- ☐ Estimating
- ☐ Calculating
- ☐ Computer Work
- ☐ Lecture
- ☐ Group Activities
- ☐ Washing/Detailing

AREAS

DESCRIPTION	EST. STAFF	EST. STUDENTS	SQ. FT. TOTAL
Paint Booth	1-2	2-8	350
Paint Prep Area	1-2	2-4	1000-1200
Lab	1-2	10-20	5000-6000
Classroom	1-2	10-20	900
Tool Room		2-4	250-300
Storage Covered/Secure			
Book Storage			150
Info Systems			120
Locker/Restroom			300-400
Welding Lab	1-2	2-8	300
Custodial Closet			50
Waste/Paint/Solvent			50

INTERNAL/EXTERNAL RELATIONSHIPS - WHAT SHOULD BE NEAR THIS AREA

- ☐ The classroom should be central to the lab.
- ☐ The washing area should be located near the paint area.
- ☐ The tool room and lab should be contiguous.
- ☐ Restrooms should be near classroom and lab.
- ☐ The information system should be near the tool room.
- ☐ The main entry should be near the classroom, not the lab area.
- ☐ Welding needs to be close to the frame rack.

INTERNAL/EXTERNAL RELATIONSHIPS - WHAT SHOULD **NOT** BE NEAR THIS AREA

- ☐ The welding area should be far from the painting area.
- ☐ Alignment should be away from the painting area and structural repair.
- ☐ The entrance should be away from the lab.
- ☐ The paint preparation area should be away from the paint booth.

UTILITIES

Plumbing:

- ☐ Hose bibs need to be located at various areas of the lab.
- ☐ A drain trough needs to be installed in the center of the floor of the lab.
- ☐ A drinking fountain should be in the lab.
- ☐ An eye wash station needs to be installed in the lab.
- ☐ A deep sink should be located in the locker area.
- ☐ The custodial closet needs a floor sink.
- ☐ Compressed air should be installed in each stall and paint booth.
- ☐ Restrooms are necessary near the classroom and lab.

- ☐ Plumbing should be positioned or dampened to minimize noise.
- ☐ Gas may be needed at the paint booth for portable heaters.

HVAC

- ☐ Welding needs a separate ventilation system.
- ☐ Extra ventilation is needed in the paint booth.
- ☐ Paint booth ventilation should take prevailing winds into consideration.
- ☐ The paint storage needs separation ventilation and should be heated.
- ☐ The heating, ventilation, and air-conditioning system needs to be of sufficient size to keep each instructional space at a comfortable temperature.
- ☐ The system needs to have a fresh air exchange system to keep high air quality in each instructional space.
- ☐ The general classroom supply and exhaust ducts need to be positioned to minimize any draftiness in the room.
- ☐ The HVAC controls need to be designed to allow individuals the ability to modify the classroom temperature for the instructional requirements of the classroom activities.
- ☐ The controls need to be positioned so that the room temperature is not “misread” (e.g., not too close to a door, window, or vent).

Electrical:

- ☐ Separate switches are needed for the welding ventilation.
- ☐ A 220 volt outlet is needed at all welding areas and a 110 volt outlet is needed at each work station.
- ☐ 220 volt outlets are needed at the structural repair area.
- ☐ The paint booth will require special electrical needs.

- ☐ The system should be oversized for future growth.
- ☐ Electrical supply to the paint booth is needed.
- ☐ Adequate power is needed for heat lamps in the lab.
- ☐ Electrical supply is needed in the tool room.
- ☐ Electrical supply is needed to the overhead doors.
- ☐ Electrical supply outlets need to be sufficient to meet the electrical equipment needs of the modern classroom.
- ☐ Electrical supply outlets need to be placed on each stationary wall and at the counters in each classroom. Floor outlets need to be placed in front of any movable walls.
- ☐ Electrical supply outlets need to be provided for any built-in audio-visual equipment installed in the classroom (e.g., television, VCR, electric ceiling screen, etc.) Controls for the screen should be by the light switches.
- ☐ Each classroom should have occupancy sensors installed for lights.

Lighting:

- ☐ Task lighting is needed at all stalls. Consider side lighting also.
- ☐ Special task lighting is needed in the structural repair area.
- ☐ Energy efficient T-8 lights with electronic ballasts should be considered.
- ☐ Consider rack lighting equipment.
- ☐ Special safety lighting in the paint or paint storage area is needed.
- ☐ Use natural light where practical.
- ☐ Lighting needs to be even across the classroom.
- ☐ The lighting controls need to accommodate an instructor's need to vary the light intensity for different instructional tasks.

Technology:

- ☐ Data drops are needed in the following areas:

  Office

  Classroom (8-10 drops)

  Screen area.

  Tool room

  Information system

- ☐ Telephones should be located in the office, classroom, lab and tool room. Phones in the lab should be in view of instructor.

- ☐ Each classroom needs to have access to cable TV for commercial, satellite and closed circuit broadcasts over the cable.

- ☐ Telephone jacks should be placed near the door to the classroom and near the teacher's area.

- ☐ The telephone system should be programmed to enable outgoing calls directly from the classroom. All incoming calls should go through the main office switchboard.

- ☐ Each classroom should be equipped with an integrated clock, intercom, and bell system.

- ☐ Each classroom should be equipped with a TV, VCR, electric screen and LCD projector. In those classrooms that have moveable walls, the

TV/VCR needs to be placed away from the moveable wall for noise separation.

- ☐ The area should be wired with data cable to enable the connection of a local area network and a wide area network.

SURFACES

Floors

- ☐ Vinyl composition tile should be installed in the office, classroom, tool room, information system, and storage areas. Sealed concrete should be considered in all other areas with a cleanable, non-skid surface.
- ☐ If floor anchors are used, strengthen the floor.
- ☐ Consider reinforced flooring for the hoist area.
- ☐ Floors should be a light color.
- ☐ A sunken floor is needed in the paint storage room and paint booth to contain spills.
- ☐ Bollards need to be installed near the overhead doors.

Walls:

- ☐ Walls should be painted with washable white paint.
- ☐ Some tackable wall area is needed in the classroom and lab.
- ☐ White boards with friction clips should be installed in the classroom.
- ☐ Windows and natural light are needed where practical.
- ☐ Interior windows in the office are needed for supervision of the lab and classroom.

- ☐ Wall and ceiling surface materials need to accommodate the acoustical needs of the classroom.
- ☐ Windows need to be of double pane glass and have operable integral blinds where practical.

Ceilings:

- ☐ Acoustical, dropped ceiling tiles are needed in the classroom and office.
- ☐ The lab ceiling height should be an unobstructed 16 feet.

Doors:

- ☐ All entry doors should have a window.
- ☐ The overhead door in the lab should be 14'x14'. A remote control door opener should be considered.

STORAGE

- ☐ Cabinets and adjustable shelves are needed in the tool room.
- ☐ Outside, secured, covered storage area is needed.
- ☐ Outside, secured automobile storage is needed.
- ☐ Each classroom needs to have at least 24' of base cabinets for storage.
- ☐ The base cabinets should have counter tops with knee spaces underneath to act as desks for computer stations.
- ☐ Each classroom needs to have overhead wall cabinets above the base cabinets.
- ☐ Sufficient storage for those specialized books, magazines, and other instructional materials necessary for successful instruction.

- ☐ Each classroom needs to have some of the storage cabinets be secured specifically for the personal effects of the instructors.
- ☐ Space is needed for two (2) four-drawer, letter-size file cabinets.

FURNITURE AND EQUIPMENT (Tools and equipment to meet NATEF certification)

- ☐ Air Compressors with air moisture collection
- ☐ Air Nozzles
- ☐ Air Lines
- ☐ Regulator/Water filter
- ☐ Air Transformer/Regulators
- ☐ Corrosion Protection Application Equipment
- ☐ Heat lamps
- ☐ Oxy-Acetylene Torch Set
- ☐ Service Jacks
- ☐ Tap and Die Set-Metric and Standard Hand Tools
- ☐ Work Bench Vise
- ☐ Exhaust Fans
- ☐ Jack Stands
- ☐ Sufficient ergonomic desks, tables, and chairs to meet the needs of the instructional program.
- ☐ TV, VCR, overhead/LCD projector, and an electric ceiling mounted screen.
- ☐ Paint Booths

- ☐ Work Stands
- ☐ Front End Alignment Stall

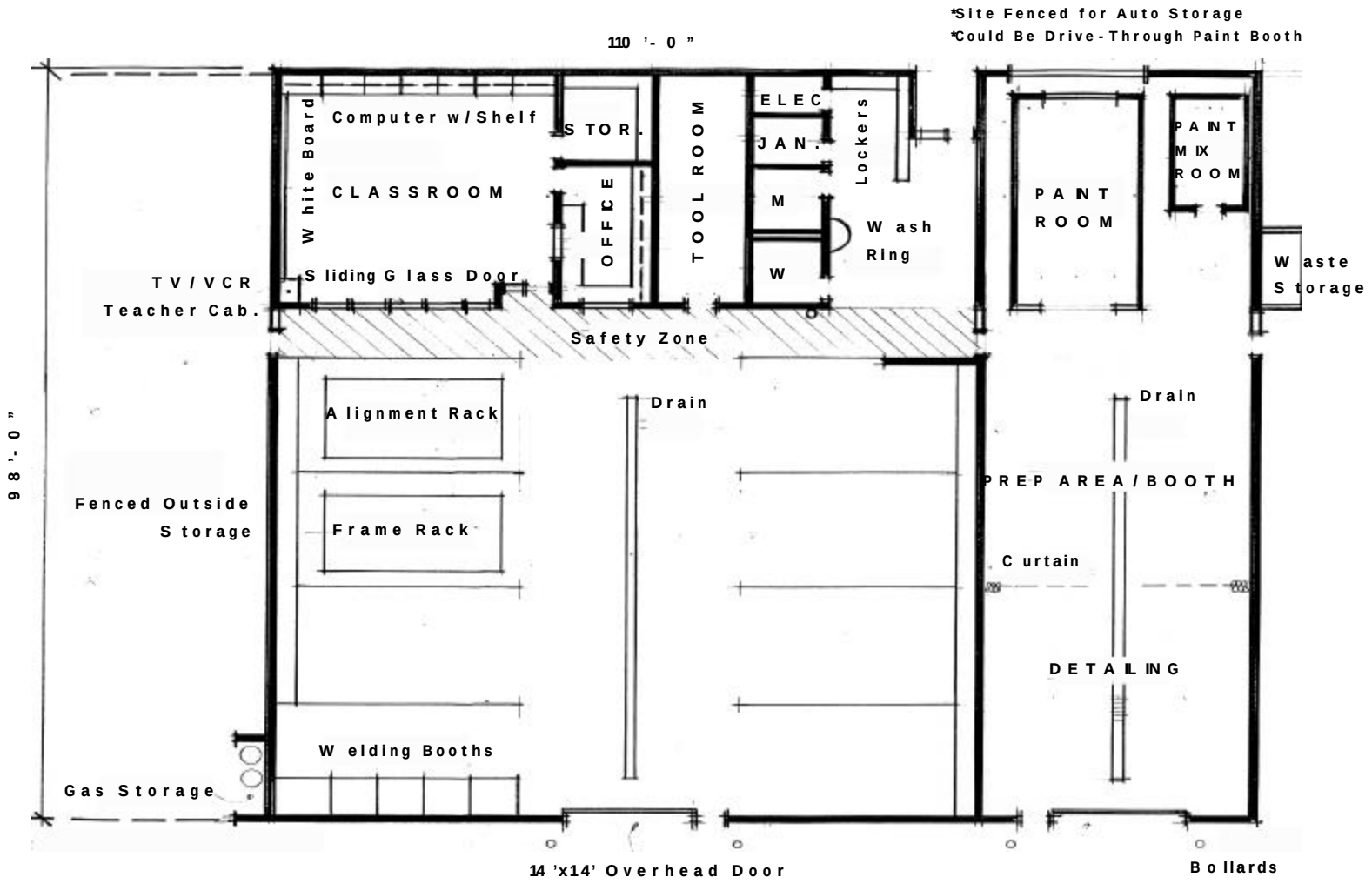
SAFETY ISSUES:

- ☐ Non-skid striping is needed in zoned areas.
- ☐ Bollards are needed in entry area of lab.
- ☐ A first aid kit should be provided in the lab area.
- ☐ All furniture should be ergonomically correct.

IMPORTANT NOTE

The following graphics are intended to show typical spaces and spacial relationships. They are not intended to serve as architectural drawings and are not adapted to specific sites.

These graphics should be used as a starting place for discussions with district personnel, planners, architects and engineers. Almost certainly, changes and adaptations will be required to meet the particular needs of the educational institution and the programs they offer.



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The Matrix Group — Not to Scale